AMMRL Program Overview

PRESENTED BY: 3.6.2.3 LOGISTICS INFORMATION SYSTEMS MAINTENANCE & OPERATIONS NAWCADLKE

AMMRL Program Description

Aircraft Maintenance Material Readiness List (AMMRL) is the title of the overall program that provides the processes, management controls and data required for effective management of Support Equipment (SE) at all levels of aircraft maintenance and training.

The AMMRL Program encompasses all the Processes involved with SE Requirements Determination, Allocation, Inventory Control, Depot Level Rework and disposal to support aviation weapon systems as defined in the OPNAV Instructions Naval Aviation Maintenance Program 4790.2 series and the Naval Airborne Weapons Maintenance Program 8600 series.

AMMRL Program Processes provide the means to determine immediate and forecasted requirements for each activity, plus asset visibility of *WHAT* items *a*re actually in use and *WHERE t*hey are being used.

Background

The Aircraft Maintenance Material Readiness List (AMMRL) Program consists of a management system and a supporting automated data processing (ADP) system, SEMS (which consists of AUTOSERD & SERMIS). The SERMIS ADP system maintains the data necessary for effective management of aircraft support equipment (SE) through the use of automated data processing equipment (ADPE).

Prior to the AMMRL ADP system, each aircraft maintenance activity, approximately 550 in all, was required to manually consult many varied types of ground support equipment (GSE) allowance lists to determine allowance requirements. The application of these allowance lists did not always result in the authorization of appropriate tools and equipment.

This inadequacy was caused by two basic factors: the use of different allowance criteria in the various lists, and the inability to adequately recognize individual activity requirements due to geographical areas of operation and specific combinations of aircraft supported by each activity. As the AMMRL ADP system developed, this situation gradually improved through the use of computers for determining the allowance requirements.

In December 1979, a contract solicitation was issued for "AMMRL/SE Rework Management Logistics System Analysis and Design." The SERMIS ADP system is the result of the total redesign

AMMRL Program Instruction

NAVAIRINST 13650.1C is the governing instruction and provides the management structure, standard inventory control procedures, assists in the redistribution of in-use SE assets and general guidelines in support of AMMRL Program Initiatives. Periodic meetings of the Aircraft Maintenance Material Readiness List (AMMRL) Program Working Group are held to review and evaluate recommendations to improve the effectiveness of the AMMRL Program.

The AMMRL program corporate site team members consists of NAVAIR PMA-260E, NAVAIR AIR-364, NAWCADLKE 362300B, ITC SPAWAR New Orleans, NAVICP, SECAs and other SE Program personnel as required.

SERMIS Description

SERMIS is the primary automated management information system supporting the AMMRL Program. In this capacity, SERMIS is subordinate to the AMMRL Program and is subject to management decisions and priorities of the AMMRL Program Manager. SERMIS exists to assist AMMRL Program management in achieving its program objectives. These objectives are:

(1) To determine and establish allowance requirements for SE at activities performing organizational, intermediate or depot level maintenance.
(2) To provide standard inventory control procedures.
(3) To assist in the redistribution of in-use assets.
(4) To provide a base for budgeting requirements.
(5) To assist in measuring material readiness.

The system operates at a single site computer center located at the SPAWAR ITC New Orleans, Louisiana. SERMIS users access the system using A PC with Internet Access in their respective work spaces. SERMIS provides an interactive capability to AMMRL Program managers for purposes of obtaining immediate query output, accomplishing select update transactions and requesting hardcopy reports.

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SERMIS is made up of 8 subsystems. A brief description of each of the subsystems is provided here and covered specifically in other training modules. Refer to SERMIS User Manual for full details and descriptions of SERMIS inputs, updates and output products. A variety of both programmed and ad hoc queries are also available to SERMIS users.

Source Data & Allowance Subsystem Descriptions

(1) The Source Data Subsystem processes basis of issue, catalog and technical data provided by the AUTOSERD system immediately after updates from MIF are processed in AUTOSERD. The sole update medium to the Source Data Subsystem is provided by NAVAIRWARCENACDIVLKE as an output from the AUTOSERD system. Source data provided by AUTOSERD will also contain an update to the GFAE-TBI and SLM data. The Source Data Subsystem performs edit and validation routines on input data from AUTOSERD and returns data base reconciliation information including an error report to NAWCADLKE who will coordinate corrective action in AUTOSERD.

(2) <u>Description of the Allowance Subsystem</u>. The Allowance Subsystem provides SECAs with on-line capability to create and maintain Employment Data which provides essential information about IMRL activities and their assigned mission. Employment Data interacts with AMMRL Program Source Data to produce allowances that are subsequently reflected in an activity's IMRL. SECAs also have on-line update capability to perform tailoring actions and deviations to adjust equipment and allowances as

Inventory & SEARR Subsystem Descriptions

(3) <u>Description of Inventory Subsystem</u>. The Inventory Subsystem provides various presentations of the asset inventory position for each IMRL activity. Changes to the inventory are authorized by the SECA, based on OPNAV 4790/64, SE TRs, received from the IMRL reporting activities. (NOTE. IMRL activities who are also LAMS users may submit inventory information to their respective SECA via the automated TR capability), The subsystem provides capability for the SECA to submit inventory transactions on-line, but edits the input and holds each transaction in suspense until all complementing transactions required by closed loop reporting are accomplished.

(4) <u>Description of the SE Asset Readiness Reporting (SEARR) Subsystem</u>. The SEARR Subsystem updates and maintains activity descriptive information records for use by other SERMIS subsystems. SEARR makes available a number of queries and produces a variety of reports with inventory, excess/deficit, management and technical information to aid users in management of SE assets. Products of this subsystem include, for example, the activity IMRL, IMRL Cumulative Allowance

Tech Data & SODARR Subsystem Descriptions

(5) Description of the SECA Technical Data Subsystem. The SECA Technical Data Subsystem provides the SECA with capability for managing items of SE that are not otherwise included in the Source Data. This subsystem allows each SECA the capability to categorize these SE items through the use of inventory management codes. This subsystem performs an additional valuable service in that it acts as a "safety net" to catch and record items which might inadvertently drop out of AMMRL Source Data so long as any IMRL activity has a recorded inventory for that item.

(6) Description of the SERMIS Source Data Revision (SODARR) Subsystem. The SERMIS Source Data Revision Subsystem provides capability for SECAs to enter SODARRs into SERMIS thereby permitting on-line transmission of these recommendations to the NAWCADIVLKE with this information available to other users on-line through SERMIS terminals. This facilitates the tracking of SODARRs through the process until approval and entry of the revised data into the AUTOSERD system

SE Rework & SERTS Subsystem Descriptions

(7) <u>Description of the SE Rework Subsystem</u>. The SE Rework Subsystem provides rework capability, scheduling and status data for end items of SE for all depot repair actions (fixed price, level of effort and commercial). This subsystem is used by the SE Rework Program Manager and the SECAs to manage end items through the depot repair process. SECAs and the SE Rework Program Manager are provided on-line queries and updates as well as paper copy reports (i.e., production status reports) to track end item progress. The NAVAIRHQ is provided cost information based on depot transactions for budget management.

(8) <u>Description of the SERMIS Requirements Tracking Subsystem (SERTS)</u>. This subsystem catalogs and tracks the initiation and status of all maintenance actions applied to SERMIS. This subsystem is used by SERMIS Project personnel at the SPAWAR ITC New Orleans for entering technical information relating to specific maintenance actions and for detailing aspects of the functional areas affected by the maintenance action.

Inventory Management

The AMMRL Program SE inventory management system provides for inventory control at the SECA and local levels as well as providing on-line visibility of SE assets on a program wide basis.

SE in-use inventory data are continually updated by form OPNAV 4790/64, SE Transaction Reports, submitted by reporting custodians. Each IMRL activity is required to submit a completed form OPNAV 4790/64 to the cognizant SECA each time a transaction occurs.

NOTE. IMRL activities who are users of LAMS will submit automated TRs (ATR) in accordance with the transaction requirements of this instruction and SECA promulgated instructions on the use of LAMS by IMRL activities.

Inventory data maintained in SERMIS are used when generating a variety of scheduled and requested reports that are available to user commands with SERMIS terminals. These reports provide the SE inventory data necessary to determine a measure of supportability of aviation maintenance for specific commands, geographic areas, ships and the Navy overall.

Inventory Management

Transaction reporting, commonly referred to as IMRL transaction reporting, is the method of reporting SE gains, losses, transfers, loans, rework, reidentifications and surveys by an IMRL activity. OPNAV Form 4790/64 is specifically designed for the AMMRL Program In-Use SE Inventory Management and Reporting System and is used by each Navy and Marine Corps aircraft maintenance activity or component for which an IMRL is prepared and issued. (Component activities include mobile facilities, squadron detachments, NAMTRAGRUDETs, etc.) The SE TR is a four part, interleaved carbon set, designed so that all information is reproduced on all copies. Detailed procedures and guidance are further amplified in SECA instructions.

All naval aviation weapon and aircraft USE found in the SERD Program which has application to one or more of the three levels of naval aviation maintenance, organizational, intermediate or depot, are subject to transaction reporting. This includes all USE assets not listed in the IMRL that are being used in place of, or in addition to, USE listed in the IMRL, regardless of the funding source or utilization.

A variety of inventory reports are available to SERMIS users.

SERMIS Users

SERMIS users are:

(1) SECAs – AIRLANT (L), AIRPAC (P), CNAR ®, NAVAIR (N), NAMTRAGRU (E), CNATRA (T), SYSCOM (S)

(2) NAVAIRHQ – PMAs, 1.0/3.0/4.0/5.0 etc

(3) NADEPs - Cherry Pt, Jacksonville, North Island

(4) NAVAIRWARCEN (AD &WD) – Lakehurst, Patuxent River, Pt Mugu, China Lake

(5) NAVICP - Philadelphia & Mechanicsberg

(6) NSWC - Crane & Corona

(7) Designated Commodity Managers

(8) Contractors

SECAs use SERMIS to provide SE allowance and inventory information to organizational, intermediate and depot level maintenance activities they support. To all users, SERMIS is the only authorized source for in-use SE allowance, inventory, technical information, asset location, excess/deficit, rework and requisition and procurement validation information.

Relationship to other ADP Systems

(1) AUTOSERD. AUTOSERD interfaces with SERMIS and provides the only input to SERMIS of AMMRL Program Source Data including SLM Data. The AUTOSERD input to SERMIS occurs once each month. SERMIS provides AMMRL Program Source Data reconciliation data back to AUTOSERD following the monthly AMMRL Program Source Data update.

(2) LAMS. LAMS, when used by participating organizational, intermediate or depot level maintenance activities, interfaces with SERMIS to provide to SERMIS automated inventory management transaction data. SERMIS provides IMRL information to LAMS.

(3) Workload Control System (WCS). WCS is resident at NADEPs and provides production status information to SERMIS regarding SE undergoing rework.

(4) Master Component Rework Control (MCRC). MCRC is also resident at NADEPs and provides NADEP rework capability data to SERMIS in support of the Support Equipment Rework Program.

SERMIS, AUTOSERD & MIF Pocs

Support Equipment Resources Management Information System (SERMIS)

ITC SPAWAR is responsible to the AMMRL Program Manager for the configuration management of SERMIS. ITC SPAWAR performs functional analysis, programming, testing, implementation, software and barcode distribution, documentation and customer support.

Automated Support Equipment Recommendation Data (AUTOSERD)

NAWCAD Lakehurst Code 362300B is responsible to the AMMRL Program Manager for the configuration management of AUTOSERD. NAWCAD Lakehurst Code 362300B performs functional analysis, programming, testing, implementation, software and documentation and customer support.

Master Item File (MIF)

NAVICP is responsible to the AMMRL Program Manager for the configuration management of AUTOSERD. NAVICP performs functional analysis, programming, testing, implementation, software distribution, documentation and customer support.

LAMS SESS & SECA Tools POCs

Local Asset Management System (LAMS)

AIR-364 is responsible to the AMMRL Program Manager for the configuration management of LAMS. AIR-364 performs functional analysis, programming, testing, implementation, software and barcode distribution, documentation and customer support.

Support Equipment Standardization System (SESS)

AIR-364 is responsible to the AMMRL Program Manager for the configuration management of SESS. AIR-364 performs functional analysis, programming, testing, implementation, software and barcode distribution, documentation and customer support.

SECA Tools

AIR-364 is responsible to the AMMRL Program Manager for the configuration management of SECA Tools. AIR-364 performs functional analysis, programming, testing, implementation, software and barcode distribution, documentation and customer support.

LAMS Description

LAMS is the only authorized means for the automated management, tracking, and inventorying of SE assets at the organizational or intermediate level of maintenance. Given that a single item of SE may cost over $1 million, the efficient use and accountability of SE at the organizational or intermediate level is of great importance to fleet support.

LAMS provides standardized local management of IMRL assets through the use of a desktop computer and bar code technology. By using bar code equipment that records inventory results on the computer data base, highly accurate wall to wall inventories can be accomplished and maintained with significant reductions in both manpower expenditures and operational disruptions.

The functions of LAMS are to validate input data, update the data base, generate various reports on SE inventory status, use bar code methodology for inventory, and

LAMS Description

LAMS is a set of computer programs designed to manipulate a data base composed of data extracted from the SE TR (form OPNAV 4790/64). The IMRL Manager uses the data input from the TR source document to produce periodic reports, lists, and summarized data. These reports are supplied to department heads, divisions, and work centers within an intermediate maintenance activity and supported activities/squadrons. Also, data from LAMS is forwarded to the cognizant SECA in an automated format for easy review and subsequent direct entry to SERMIS.

Two documents initiate data entry into the LAMS data base: the first, Initial Inventory Form, is used at the time of installation of LAMS; the second is form OPNAV 4790/64 for day-today transactions.

SECAs ensure that their respective participating activities fulfill all responsibilities associated with SE inventory management by the accurate completion of TRs

SESS Description

SESS is a component of the AMMRL Program. SESS is a stand-alone management information system that uses existing microcomputer technology to maintain aviation maintenance SE inventory information, facilitate preventative maintenance scheduling and track incorporated technical directives within a maintenance activity. SESS produces equipment status reports and recall schedules for SE due for preventive maintenance.

SESS facilitates the following functions:

(1) Scheduling of preventive maintenance.

(2) Tracking of supply requisitions.

(3) Tracking of incorporated technical directives.

(4) Preparation of printed Maintenance Action Forms.

(5) Preparation of various maintenance control reports

NAVAL AVIATION SYSTEMS TEAM

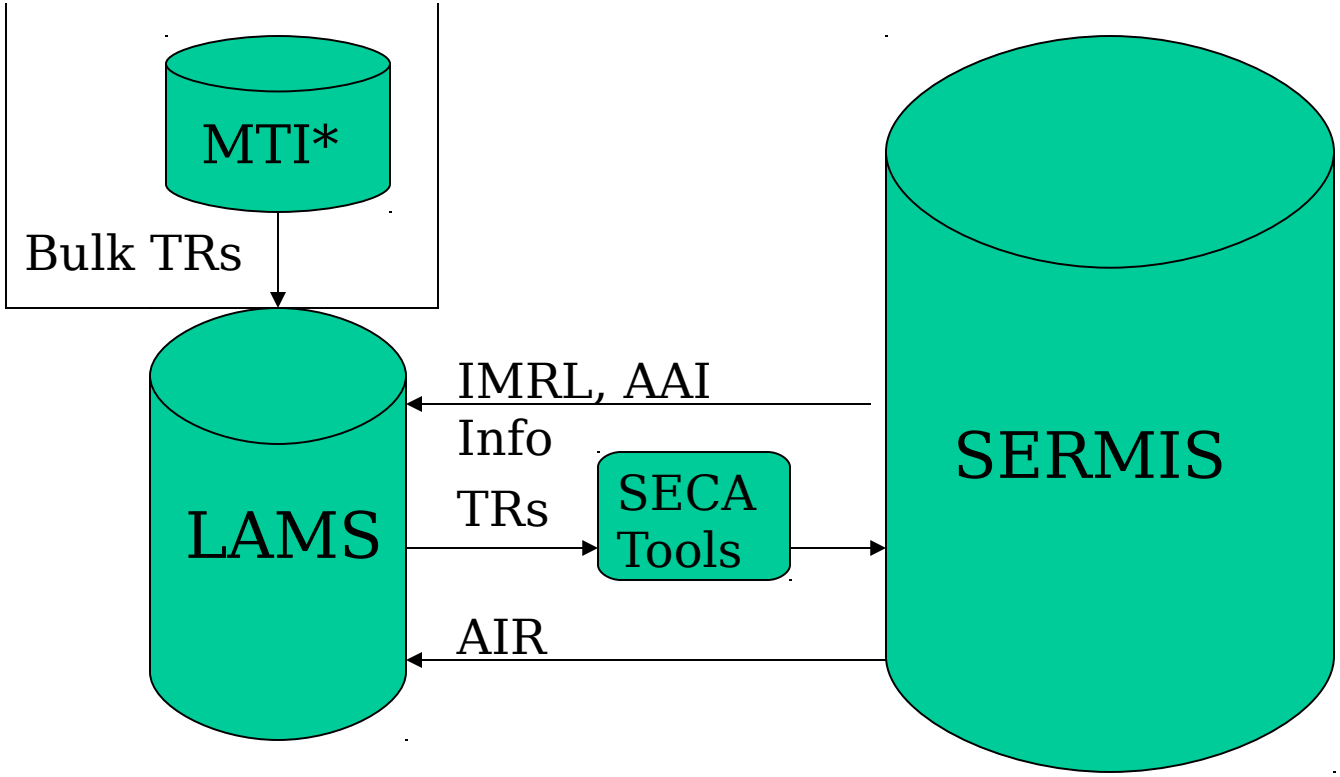
LAMS Background

PURPOSE: The primary objective for LAMS is to provide a standardized method of managing aviation Support Equipment (SE) assets at the three levels of aviation maintenance. Inventory changes are up-line to the Support Equipment Resources Management Information System (SERMIS). LAMS is used

An activity loads its their Individual Material Readiness List (IMRL) data from SERMIS into LAMS. The IMRL data is used to verify the Part Numbers and CAGES of assets which need to be reported up-line to SERMIS. The IMRL is also used to calculate and identify excess/deficit SE assets.

An activity records inventory changes through the use of Transaction Reports (TRs) . TR data is passed to SERMIS to ensure the up-line repository of data accurately reflects the

System Interfaces / Data Flow



Note: Activities export TR data and forward the data to their Support Equipment Controlling Authorities (SECAs) who then upload the data to SERMIS using Automated Transaction Processing (ATR) which is part of SECA Tools. * Only NAMTRA activities use MTI.

Support Equipment Controlling Authorites (SECAs) and Activities

Naval Air Systems Command (NAVAIRSYSCOM) (NAVAIR - PMA260)

- **Naval Air Aircraft Controlling Custodian (NAVAIR ACC) (NAVAIR 5.0D)**
- **Commander Naval Air Force U.S. Atlantic Fleet (COMNAVAIRLANT) (AIRLANT)**
- **Commander Naval Air Force U.S. Pacific Fleet (COMNAVAIRPAC) (AIRPAC)**
- **Commander Naval Air Reserve Forces (COMNAVAIRESFOR) (CNARF)**
- **Chief of Naval Air Training (CNATRA)**
- **Naval Air Maintenance Training Group (NAMTRAGRU)**

LAMS Activities: Approximately 500 Activities under SECA

LAMS Functionality

LAMS is essential to the daily mission performance of NAVAIR, Fleet and Training Activities.

• Records SE Inventory Changes through the use of Transaction Reports (TRs). TRs are created, maintained, printed and exported by LAMS. Exported TRs are forwarded to the SECA and uploaded into SERMIS via SECA Tools. This keeps SERMIS (the up-line Repository) in sync with what the activity is reporting.

• Allows processing of TRs in bulk. This is used when an activity is transferring or loaning a large quantity of inventory to the same activity. The user can browse the inventory and select those items that that should be transferred or loaned. This will also generate a log file which can be sent to the receiving activity. The receiving activity then has the option to bulk gain or receive those assets by selecting items from the log file. This

LAMS Functionality

•Using LAMS5 data from SERMIS, compares the Inventory reported in LAMS with the Inventory Reported in SERMIS. The AIRCOMP report will identify any discrepancies between LAMS and SERMIS, including any differences in Status Code reporting. Activities should be reporting Inventory Accuracy of 100%.

• Using LAMS6 data from SERMIS, reconciles the IMRL file in LAMS with the IMRL file in SERMIS. This process may result in the automatic generation of GI TRs if assets were originally identified as non-IMRL and have since been added to the activities IMRL.

• Using AAI data from SERMIS, updates the AAI information to include addresses, points of contact, etc.

• Reports excess / deficits by comparing the authorized allowance in the IMRL with the inventory in LAMS.

LAMS Functionality

- Allows updates to Inventory records which would not need to be reflected in SERMIS. This includes changing work center, location information, barcode, etc. It also includes maintaining non-IMRL assets.
- Allows updates to the Unmatched IMRL records. (Note: Unmatched IMRL records may be created automatically when gaining an IMRL asset that currently does not exist in the IMRL table or when reconciling LAMS with SERMIS.)
- Allows updates to the AAI Lookup records. (Note: Since SERMIS AAI data is maintained in SERMIS and updated in LAMS, the only fields which may be updated are the last TRSN and Year fields. For Non-SERMIS Activities, all fields may be updated.
- Allows user to create and share adhoc queries and reports.
- Generates Subcustody and Work Center Reports.
- Saves LAMS Data in different formats (ie. Access, dBase, Excel

LAMS Functionality

- Compacts / rebuilds the database for efficiency.
- Backups and restores database.
- Allows Inventory Verification by uploading barcodes to the Intermec 2410 for verification, downloading scanned barcodes from the Intermec 2410, and generating barcode reports.
- Zips / unzips files for use with the LAMS program.
- Allows an AAI to be extracted from the existing LAMS database and later merged back into an existing LAMS database.
- Maintains User Options such the location of your automatic backups.
- Maintains System Security (User Ids / Passwords / Permissions).

Up-line TR Codes

GI - Gain by Inventory
RI - Receipt of an asset from another IMRL activity.
RX - Receipt of an asset from supply.
TI - Transfer to an IMRL activity.
TX - Transfer to Supply.
DX - Transfer to DRMO.
FX - Transfer to FMS.
TA - Administrative Transfer.
SI - Survey of an in-use item.
SD - Survey of an item in Rework.
SL - Survey of a loaned item.
TD - Transfer an item to Rework.
RD - Return an item from Rework.
TL - Temporary Loan of an item.
RL - Receipt of a loaned item.
RT - Return of a loaned item.
RR - Receipt of a returned loaned item.
RE - Re-identify an item.
SC - Status Code Change.

Local TR Codes

XE - Rework Asset Exchange (Expending)

XG - Rework Asset Exchange (Gaining)

LI - Local Issue

LG - Local Gain

LT - Return of a Local Gain

LR - Receipt of a returned Local Issue

NOTE: Rework Asset Exchange TRs are SECA directed TRs which have already been entered into SERMIS. Therefore, LAMS treats these TRs as local TRs.

SERMIS Source Data Interfaces

- **Source Data Update - from AUTOSERD via Monthly Source data transactions (Approximately 1st Sat of Every Month).**
- **Allowance Regeneration - Recomputes all allowances based on current Source Data & Employment (1st weekend following a Source Data Update**
- **Inventory - from LAMS (Local Asset Management System) = Inventory held at each individual site (Automated updates thru SECAs)**
- **Employment - SECA authorizations for SE based on site (AAI) and Types / Quantities of Aircraft, Engines, Weapons, Systems,etc**